

## **Evaluating the impact of intravenous deferoxamine during the blood transfusion on reduction of serum ferritin in Ardabil province's patients with thalassemia major**

### **Abstract**

#### **Introduction:**

A blood transfusion in patients with thalassemia major is a important treatment base. Iron overload resulted from Long-term transfusion-related using iron chelators particularly by the deferoxamine can be reduced. deferoxamine transfusion is currently conducted at evening (6 nights on a week) and by the pump. Deferral of deferoxamine consumption caused iron overload and its symptoms. Furthermore, applying the other method which is easy to handle and reduce monthly deferoxamine consumption rate is essential. One of these methods which has been mentioned in references is simultaneous blood transfusion and deferoxamine.

#### **Methodology:**

This study is kind of cross-sectional study and it has implemented over Patients with thalassemia major. In these patients, intravenous deferoxamine transfused with a three-way connection with blood transfusion. For each 5 kg of body weight, one vial of deferoxamine and maximum of four vial dissolve in distilled water and diluted in 500cc N/S and then transfused during eight hours. If a patient has a high blood pressure, Dextrose is used instead of N/S. In patients younger than 10 years 50 mg and over than 10 years 100 mg chewable vit-C should be given before transfusion of intravenous deferoxamine and that night the patients shouldn't use subcutaneous deferoxamine.

#### **Results:**

In this study, 34 patients studied during the intended time which 15 patients were man (45.7%) and 19% were woman (54.3%). Patient's age average was 20.1 with 5.7 standard deviation. Results showed that subcutaneous deferoxamine consumption rate and  $L_1$  three and six month after simultaneous blood transfusion and intravenous deferoxamine and also average rate of ferritin three month after studying proportion to pre-studying had been reduced significantly. But ferritin reduction was not significant statistically six month after due to the arbitrary reduction of subcutaneous deferoxamine consumption and  $L_1$  reduction rate of subcutaneous deferoxamine consumption in patients who had undergone splenectomy was more than other patients. Evaluating the impact of simultaneous intravenous deferoxamine and the blood transfusion in terms of age and gender was not meaningful statistically.

#### **Conclusion:**

Simultaneous intravenous deferoxamine and the blood transfusion on thalassemia major cause significantly ferritin reduction and subcutaneous deferoxamine consumption and  $L_1$  that this method is applicable over patients who have undergone splenectomy. Therefore, It is recommended to use this method.

**Key words:** deferoxamine, thalassemia, ferritin.